

What is claimed is:

1. Add-drop multiplexer with signal amplification ability comprising:

two optical couplers of a grating built-in type; and

5 two optical amplifiers.

2. Add-drop multiplexer with signal amplification ability comprising:

an optical coupler of a grating built-in type on an input side;

an optical amplifier on an input side connected to one of optical fibers on an
10 input side of the optical coupler, allowing signal light inputting;

an optical couple of a grating built-in type on an output side including an
other of optical fibers on an input side connected to other of optical fibers on an
output side of the optical coupler on the input side and providing without
connecting one of the optical fibers on an input side and one of the optical fibers

15 on an output side;

an optical amplifier on an output side connecting one of the optical fibers on
an output side of the optical couple on the output side, outputting signal light; and

an connection optical fiber connects so as to output Bragg wavelength
separated by the optical fiber on the input side of the optical coupler on the input
20 side to other optical fiber on the output side of the optical couple on the output
side .

3. Add-drop multiplexer with signal amplification ability according to claim 1, wherein the optical coupler of a grating built-in type on an input side and optical couple of a grating built-in type on an output side include a fiber coupler formed with a fiber grating at a melt-extended portion of the fiber coupler, a pitch of
- 5 grating has an uniform structure in a length direction, apodization is done, and grating has a length of 2.0 mm and a change in induced refractive index is 0.001.